

Claims

1. A method for distributing packages or similar dispatched articles, wherein the packages (1) to be transported especially from private and/or commercial senders to an addressee are acquired at a collecting location (2), the packages (1) are provided at the collecting location with a package code (C) containing addresses, package numbers or the like as electronically detectable data, and, subsequently, the packages (1) are distributed and/or delivered by means of respective transport vehicles, characterized in that the collected packages (1) are supplied to a HUB center that is connected to several collecting locations (2), in that in the HUB center the respective package codes (C) are combined with measurement data (length, width, height, weight), the geo coordinates (addressees) as well as identification data of the package (1) to a controllable package routing code (C'), and in that these package routing codes (C') of all packages (1') are supplied to a central computer (7) in such a way that, subsequently, the packages (1') by means of output signals generated by the program of the central computer (7) and effecting a dynamically optimizable route planning (D) are arranged in a sequence sorted in accordance with distribution zones, that this sorted package sequence as well as the package routing codes (C') are introduced into transport boxes (30) in a distribution-compatible sorted arrangement (6), the transport boxes are transferred onto a vehicle (29), and, subsequently, the packages (1') are delivered by a navigation-controlled distribution (9) in an automatically controllable way to the addressee (41).

2. The method according to claim 1, characterized in that the expanded package routing codes (C'') with measurement data, geo coordinates, addressees, and identifier are acquired already in the collecting location (2), at a client, or directly at the sender, are transmitted to the central computer (7), and, subsequently, the data sets (C'') are checked upon package arrival in the HUB center.

3. The method according to claim 1 or 2, characterized in that several HUB centers (HUB, HUB') are controlled by said one central computer (7).

4. The method according to one of the claims 1 to 3, characterized in that in the HUB center the packages (1') are supplied by computer control to an intermediate storage facility (14) having defined storage locations, are stored therein within a predetermined time window, and, subsequently, the packages (1') are removed in a distribution-compatible sequence.

5. The method according to one of the claims 1 to 4, characterized in that

- - in decentralized collecting locations (2), respectively, the packages (1) are provided with a machine-readable information carrier,
- the respective package code (C) is electronically acquired as identification data and supplied to the central computer (7),
- the packages (1) of the respective collecting locations (2) are transported in a transport box to a common trans-shipment center (18),
- from the trans-shipment center, the packages (1) in the form of a random transport quantity (20) are transported in the transport box to the HUB center,
- - in the HUB center, the package codes (C) are read into a HUB computer (4) for checking completeness of the packages (1) ,
- the package codes (C) with measurement data of the package (1) are generated as an electronically checked package routing code (C'),
- the package routing codes (C') is supplied to the central computer (7) and processed in accordance with a dynamically optimizable route planning (D),
- the computed data of the route planning are transmitted to the HUB computer (4) as well as to the trans-shipment centers (18) contained within the route planning,
- the packages (1') are arranged in a transport-compatible way in a last-in-first-out arrangement (LIFO),
- - one or several of the generated package stacks (6) are removed from the HUB center,
- the package stacks (6) introduced into transport boxes are transported by means of a transport vehicle (8) to the trans-shipment center (18),
- in the trans-shipment center the package stacks (6) are transferred to a

distribution vehicle (35),

- the distribution vehicle receives the package routing codes (C') of one or several package stacks (6) contained in the transport boxes from the central computer (7),

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- subsequently, by means of a distribution route that is controlled by a navigation system (9) or the like, the packages (1') are delivered to the addressee (41) with the optimized route planning (D), and
 - for this delivery the package routing codes (C') are compared with test data (42).

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6. The method according to one of the claims 1 to 5, characterized in that the dynamically optimized route planning (D) is performed by means of the central computer (7) in a time window that enables delivery of the packages (1') on a day following the day of acquisition.

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7. The method according to one of the claims 1 to 6, characterized in that in place of the decentralized collecting location (2) the packages (1) are picked up by a pickup service and are provided by the pickup service with an information carrier receiving the electronically detectable packaging codes (C).

8. The method according to one of the claims 1 to 7, characterized in that the packages (1) are supplied from the collecting location (2) directly to the HUB center.

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9. The method according to one of the claims 1 to 8, characterized in that the central computer (7) is provided with programs into which a complete address list, the postal codes to be correlated therewith, and actual geo coordinates can be entered.

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10. The method according to one of the claims 1 to 9, characterized in that with the programs of the central computer (7) respective limit ranges of the package dimensions, a maximum number of packages (1') that can be delivered in a package stack (6) or in a transport box, and a time window for package delivery can

be predetermined.

11. A device for distributing packages or similar dispatched articles, in particular, for performing the method according to claim 1 through 10, comprising a HUB center, characterized in that the device in the area of the HUB center is provided with a measuring device (3, 21) comprising sensor units for detecting identification data, package sizes (length, width, height, weight), addresses and geo coordinates, respectively, and their measured data (C, C') can be supplied to a computer (4, 7) correlating the data to the packages (1') as descriptive data such that by means of the measured data (C, C') processed by the computer (4, 7) in the HUB center a control action is effected with which the sortable packages (1') are transferable in an ordered sequence (30) into at least one vehicle (8; 29; 35) and the packages (1') are distributable by a route planning (D) that is dynamically optimized by the expanded data set (C').

12. The device according to claim 11, characterized in that for detecting and identifying the packages by means of their package codes (C) a transponder as an information carrier can be secured on the package whose data can be acquired in the area of a HUB center that is configured as a sorting location and the HUB center is provided with a HUB computer (4) having a stored-program control unit (SPC) and connectable to a central computer (7), which for handling the packages (1; 1') interacts respectively with sensor devices (3), controlled storage devices (14), packing devices (15, 16), and distribution systems (35, 36) on the basis of the geo coordinates (9).

13. The device according to claim 11 or 12, characterized in that the HUB center in the area of an arrival conveying stretch has sensors that individually measure the packages (1), respectively, whose comparing and measuring results in the form of package routing codes (data sets C') can be transmitted to a transponder forming the information carrier as well as to the computer (4) with SPC control unit (25) provided in the HUB center.

14. The device according to one of the claims 11 to 13, characterized in that the HUB center in the area of an exit conveying stretch (5) is provided with a packing device (16) and a support device receiving the package stacks (6) contained in the transport box (30).

5 15. The device according to one of the claims in 11 to 14, characterized in that as a support device for the sorted package stacks (6) a transport box (30) having standardized dimensions is provided.

10 16. The device according to one of the claims 11 to 15, characterized in that the selected packages (1') in the area upstream of the packing device (16) pass through a transport system (15) that distributes the packages (1') in a targeted way for transfer into the transport boxes (30).

15 17. The device according to one of the claims 11 to 16, characterized in that the data of the package routing codes (C') generated in the central computer (7) for the transport box (30), respectively, are transmitted wireless, by diskette or the like onto a terminal device (36) provided in the distribution vehicle (35).

18. The device according to one of the claims 11 to 17, characterized in that a navigation system or similar auxiliary devices (39, 40) with an application for geo coordinates that is integrated into the distribution vehicle (35) are connectable to the terminal device (36).

20 19. The device according to one of the claims 11 to 18, characterized in that the terminal device (36) has an input part (42) that acknowledges the delivery of the package (1').